

SEQUENCE LISTING



213
<110> GILBERT, MARYSE

POPOFF, MICHEL-ROBERT

<120> CLOSTRIDIUM TOXIN AND PROCESS FOR THE PREPARATION OF IMMUNOGENIC COMPOSITIONS

<130> 0660-0172-0CONT

<140> 09/531,438

<141> 2000-03-20

<150> PCT/FR98/01999

<151> 1998-09-17

<150> FR971170

<151> 1997-09-17

<160> 7

<170> PatentIn version 3.0

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<211> 1392

<212> DNA

<213> Clostridium perfringens

<220>

<221> CDS

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Tyr Ser Val Val Asp His Trp Met Trp Lys Asp Asp Val Lys Ala Ser			
205	210	215	
caa atg gta tat ggt caa aat cct gat tct gct aga caa ata aga tta			966
Gln Met Val Tyr Gly Gln Asn Pro Asp Ser Ala Arg Gln Ile Arg Leu			
220	225	230	
tat ata gaa aaa gga caa tct ttc tat aaa tat aga ata aga att aaa			1014
Tyr Ile Glu Lys Gly Gln Ser Phe Tyr Lys Tyr Arg Ile Arg Ile Lys			
235	240	245	
aac ttt aca cct gca tca att aga gta ttt ggt gaa ggg tat tgt gca			1062
Asn Phe Thr Pro Ala Ser Ile Arg Val Phe Gly Glu Gly Tyr Cys Ala			
250	255	260	265
tag aaaaaaatat gaagtgactt agtcacttca tattttttttt actattaatt			1115
ttattatata aaaacctaac atacatgaaa gtattcttaa tacagttata tcaaaattaa			1175
agtaggggaa ataaaataaa aggctaaaaa ctatattaaa aactataaaa attattaaat			1235
taggttttaa ggtgttatat ttatttatga ttataggaat aaatatgcca aatggaataa			1295
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Ile Asp Ala Tyr Arg Lys Val Met Glu Asn Tyr Leu Asn Ala Leu Lys	
35 40 45	
Asn Tyr Asp Ile Asn Thr Val Val Asn Ile Ser Glu Asp Glu Arg Val	
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Asn Asn Val Glu Gln Tyr Arg Glu Met Leu Glu Asp Phe Lys Tyr Asp
 65 70 75 80

Pro Asn Gln Gln Leu Lys Ser Phe Glu Ile Leu Asn Ser Gln Lys Ser
 85 90 95

Asp Asn Lys Glu Ile Phe Asn Val Lys Thr Glu Phe Leu Asn Gly Ala
 100 105 110

Ile Tyr Asp Met Glu Phe Thr Val Ser Ser Lys Asp Gly Lys Leu Ile
 115 120 125

Val Ser Asp Met Glu Arg Thr Lys Val Glu Asn Glu Gly Lys Tyr Ile
 130 135 140

Leu Thr Pro Ser Phe Arg Thr Gln Val Cys Thr Trp Asp Asp Glu Leu
 145 150 155 160

Ala Gln Ala Ile Gly Gly Val Tyr Pro Gln Thr Tyr Ser Asp Arg Phe
 165 170 175

Thr Tyr Tyr Ala Asp Asn Ile Leu Leu Asn Phe Arg Gln Tyr Ala Thr
 180 185 190

Ser Gly Ser Arg Asp Leu Lys Val Glu Tyr Ser Val Val Asp His Trp
 195 200 205

Met Trp Lys Asp Asp Val Lys Ala Ser Gln Met Val Tyr Gly Gln Asn
 210 215 220

Pro Asp Ser Ala Arg Gln Ile Arg Leu Tyr Ile Glu Lys Gly Gln Ser
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Arg Val Phe Gly Glu Gly Tyr Cys Ala
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 aaagtgttct cgggggacac ttttttgttt taaaaaggaa aatataaata aaatttagat 180
 aaaagtgtaa aataattatt tttattttta atttgttaaa aatttgatat aattgaattg 240
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<213> Clostridium perfringens

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